

*Characteristics of some Cartilaginous Fishes of the Pacific coast of North America.*

By CHARLES GIRARD.

1. *CESTRACION FRANCISCI*, G.—The largest of these specimens now before us, and measuring nearly two feet, bears a very strong resemblance to *C. Phillippi*, though of a somewhat more bulky appearance. The bony ridge, above the eye, is much more developed, and the fins are larger also. The posterior margin of the caudal is bilobed instead of being rounded: an emargination corresponding to the top of the vertebral column. The anal is placed farther back; its tip projecting beyond the anterior margin of the inferior lobe of the caudal. The posterior extremity of the ventrals extends beyond the anterior margin of the second dorsal. Color, above yellowish grey, darker in the young; beneath light yellow. Small roundish black spots are spread all over the body and fins.

Collected by Lt. W. P. Trowbridge, U. S. A., in the Bay of Monterey, Cal.

2. *TRIAKIS SEMIFASCIATUM*, G.—This species is closely allied to *T. scyllium*, from which it differs by a more backward position of the mouth or else a more developed snout. The chagrin which covers the surface of the skin is more acute, giving to the fish a more prickly aspect. Color above olivaceous grey, lighter beneath; yellowish under the head and throat. Dorsal region marked by transverse bands of deep black, with spots of the same hue between the bands, and also beneath them, along the sides of the body. A black spot exists at the base and upper surface of the ventrals and pectorals. The caudal is spotted all over, whilst the dorsals and anal are so only at their base.

Specimens were collected near Presidio, in the Bay of San Francisco, Cal., by Lt. W. P. Trowbridge, U. S. A.

3. *SPINAX (ACANTHIAS) SUCKLEYI*, G.—Specimens about twenty nine inches long. Snout very much flattened, elongated, and subconical in its outline when viewed from above. Eyes very large, elongated and placed immediately in advance of the mouth. Five branchial apertures well developed. Mouth large. Dorsal fins moderate; spine of anterior dorsal rather small. Pectorals very large and expanded, concave upon their posterior margin. External margin of ventrals rounded. Inferior lobe of caudal deeply emarginated; upper lobe long and lanceolated. Color above of a dark grey with a few small whitish spots; beneath, under the head and belly, dull yellowish; farther back, of a light greyish hue.

Collected at Fort Steilacoom, Puget Sound, W. T., by Dr. Geo. Suckley, U. S. A.

4. *RHINOBATUS PRODUCTA*, Ayres, in Proc. Cal. Acad. Sc. I. 1854.—A male specimen, thirty eight inches in total length, brought this species to our knowledge. The rostral distance, from the eyes forwards, is of a much lighter hue than the rest of the body. A blackish band exists along the middle of the back, with diffused blotches upon the sides, and a double band of the same color along the middle of the snout.

Collected either at Presidio or Monterey, Cal., by Lt. W. P. Trowbridge, U. S. A.

5. *RAJA BINOCULATA*, G.—Transverse diameter, from tip of one pectoral fin to the other, greater than the longitudinal, from tip of snout to the extremities of the ventrals. Snout tapering and rounded anteriorly. Eyes moderate; orbit surrounded with spines. A spine upon the dorsal line, near the origin of the trunk. Tail longer than the body and head together, slender and flattened most of its length; provided above with a series of spines extending from its origin to the base of the first dorsal fin. Second dorsal within a short space of the first and approximating the tip of the tail. Ground color olivaceous brown; snout dull whitish. A large subcircular black ring at the base of pectorals enclosing a large subcircular black spot. At a short distance behind these may be seen a much smaller and more obsolete subcircular dark ring, clouded within with

blackish. Beneath dull yellowish; external margin of ventrals blackish. Dorsal fins olivaceous; extremity of caudal blackish with a lighter margin.

Collected by Dr. A. L. Heermann, at San Francisco, Cal., while attached to the Pacific Railroad Survey under Lt. R. S. Williamson, U. S. A.

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*Abstract of a Report to Lieut. Jas. M. Gilliss, U. S. N., upon the Fishes collected during the U. S. N. Astronomical Expedition to Chili.*

By CHARLES GIRARD.

PERCIDÆ.

Genus PERCICHTHYS, Girard.

Body oblong or elongated, compressed, covered with scales of medium development, finely ciliated upon their posterior margin. Snout rather thick and blunt, overlapping slightly the lower jaw; card-like teeth on the jaws; velvet-like teeth disposed upon a transverse band in front of the vomer, and upon a narrow band along the palatines, sometimes only towards the anterior extremity of these latter bones. Tongue smooth. Upper surface of head, suborbitals and posterior dilatation of the upper maxillary, covered with scales as well as the cheeks and opercular apparatus. Suborbital and preopercle serrated. Opercle provided with a spine. Branchiostegals six or seven in number. Two dorsal fins contiguous at their base. Insertion of ventral fins immediately beneath the base of pectorals. Anal fin provided with three spiny rays.

1. *PERCICHTHYS CHILENSIS*, G.—*Perca trucha*, GUICH. in *Gay*, *Hist. de Chile*, Zool. II. 1848, 146, Ictiol. Lam. I. bis. fig. 1.—Snout subconical, obtuse anteriorly, and slightly overlapping the lower jaw. Mouth well developed. Posterior extremity of upper maxillary fetching the vertical of the centre of the pupil. Limb of preopercle conspicuously serrated. Exterior margin of sub- and interopercle inconspicuously so. Soft portion of anal deeper than the height of the second dorsal. Caudal moderately emarginated posteriorly. Branchiostegals seven. Ground color yellowish; upper regions covered with brownish or blackish diffused spots.

Inhabits the fresh waters of Chili.

2. *PERCICHTHYS MELANOPS*, G.—Mouth of moderate size; posterior extremity of upper maxillary reaching the vertical of the anterior rim of the orbit. Palatine teeth occupying but a small area towards the anterior extremity of these bones. Opercular spine not very conspicuous. Branchiostegals six. Ground color whitish, minutely and densely dotted with black; dots crowding upon the middle of the scales under the shape of a central blotch, giving to the whole fish quite a dark hue.

Caught in a tributary of the Rio de Maypo, Chili.

Genus PERCILIA, Girard.

General physiognomy percoid, body compressed. Two dorsal fins contiguous at their base, broadly separated in their outline. Mouth rather small or else of medium size; jaws subequal. Small conical teeth upon the maxillaries, and a few card-like ones upon the front of the vomer, none on the palatines. Tongue smooth. A few minute spines along the limb of the preopercle. Opercle without any spine. External edge of suborbitals, sub- and interopercle not created. Branchial aperture of either side continuous under the throat. Branchiostegals five or six in number. Scales quite large, and posteriorly ciliated. Cheeks and opercular apparatus scaly; top of head nearly smooth and naked. Suborbitals and maxillary scaleless. Insertion of ventrals behind the base of pectorals. Caudal posteriorly subcrenate.

3. *PERCILIA GILLISSI*, G.—Snout short and rounded, mouth small; posterior extremity of upper maxillary corresponding to the vertical of the anterior rim